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94 RF 11260

DIST.	LTR	ENC
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URLINGAME, A.H.		
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ERRERA, D.W.		
RAY, R.E.		
EIS, J.A.		
LOVER, W.S.		
CLAN, P.M.		
ANNI, B.J.		
ARMAN, L.K.		
EALY, T.J.		
EDAHL, T.		
ILBIG, J.G.		
UTCHINS, N.M.		
ACKSON, D.T.		
ELL, R.E.		
UESTER, A.W.		
IARX, G.E.		
ICDONALD, M.M.		
ICKENNA, F.G.		
IONTROSE, J.K.		
IORGAN, R.V.		
OTTER, G.L.		
IZZUTO, V.M.		
ISING, T.L.		
ANDLIN, N.B.		
CHWARTZ, J.K.		
ETLOCK, G.H.		
TEWART, D.L.		
TIGER, S.G.		
OBIN, P.M.		
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McHugh, MF	C	
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ADMN RECORD/080	X	X
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CLASSIFICATION:

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IN REPLY TO RFP CC NO: NA

ACTION ITEM STATUS
PARTIAL/OPEN
CLOSED
LTR APPROVALS:

ORIG & TYPIST INITIALS

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

November 7, 1994

94-RF-11260

R. R. Sarter
Project Manager
Environmental Restoration
DOE/RFFO

TRANSMITTAL OF TECHNICAL MEMORANDUM NO. 1 — OPERABLE UNIT (OU) 13 – MFM-028-94

Action: Approval and transmittal to regulatory agencies

Please find the enclosed three sets of copies of Technical Memorandum No. 1—OU 13, Addendum to the Field Sampling Plan dated November 1994 and a revised response to comments submitted by the Colorado Department of Public Health and the Environment (CDPHE). The Environmental Protection Agency (EPA) did not submit comments of their own, but concurred with those submitted by CDPHE. One copy of these copies is a redlined version to allow reviewers to quickly determine if the comments were included from the previous draft.

This Technical Memorandum is ready for final transmittal to the EPA and the CDPHE. In addition, CDPHE specifically requested a redlined copy to expedite their review.

I have also submitted this Technical Memorandum to Document Control and requested that you and the regulatory agencies each receive a copy of the controlled document. Any substantive changes to the text can then be accomplished through the Document Modification Request process. I recommend that changes requested by the regulatory agencies be accomplished in the next Technical Memorandum which will report on the investigations outlined in this Technical Memorandum.

Please call me or Bruce Peterman, if you have any questions. I can be reached at extension 8624; Mr. Peterman's extension is 8659. Thank you for your assistance.

M. F. McHugh
Project Manager – OU 13
Industrial Area OU Closures/Decontamination & Decommissioning Team

MFM:alk

Orig. and 1 cc – R. R. Sarter

Attachments:
As Stated (3)

ADMIN RECORD

A-OU13-000250

RESPONSE TO COMMENTS ON TECHNICAL MEMORANDUM #1—ADDENDUM TO THE FIELD SAMPLING PLAN, OPERABLE UNIT 13

GENERAL COMMENTS:

Deletion of Surficial Soil Sampling from Field Sampling Plan (FSP) for IHSS 148

The Historical Release Report (HRR) information regarding this IHSS does present two potential scenarios for releases. Both aboveground and underground. The information regarding the surface spills of nitrate-bearing wastes which may have contained radionuclides has not been verified with documentation. The HRR states that: " No documentation was found which supported the occurrence of individual spills associated with some type of waste management practice outside of Building 123. Similarly, none of the people interviewed for this work plan had knowledge of such spills, nor could the interviewees identify a plausible reason or cause for such spills. The reason for this is that Building 123 has been serviced with a process waste collection system that has always allowed for the collection of process wastes (including nitrate bearing wastes) from very close to the point of generation."

According to Comprehensive Environmental Assessment and Response Program (CEARP) Phase 1, where interviewees remain anonymous, several small spills of nitrate-bearing wastes occurred around the outside of Building 123. These wastes may have contained radionuclides. No documentation was ever found which supported the occurrence of individual spills associated with some type of waste management practice outside of Building 123. similarly, none of the individuals interviewed had knowledge of such spills, because Building 123 has been serviced with a process waste collection system that has always allowed for the collection of process wastes (including nitrate-bearing wastes) from very close to the point of generation.

An extremely knowledgeable individual of the history of Building 123 back to 1961 has stated that there are no events that he knows of related to surface releases of nitrate waste near Building 123 since 1961, nor could he think of any reason that such releases might have occurred at any time in the history of the building. He will unequivocally state that no such surface releases have occurred since 1961. He is, aware that subsurface release of these types of wastes might have occurred. These releases would have been associated with the Old Process Waste Line (OPWL). According to Wright Water Engineers (who prepared the Historical Release Report and its updates), the IHSS is a misinterpreted reference to the OPWL that exists beneath and to the south of Building 123.

Given this information, major spills of nitrate-bearing waste have not occurred to the south or in the courtyard of Building 123 since 1961. It is possible, though unlikely, that surface spills might have occurred prior to 1961.

Cottonwood Avenue is the road south of Building 123, between Building 123 and 444/460. This road has been paved since shortly after the plant and Building 444 began operations in the early 1950s. Between Cottonwood Avenue and Building 123 the ground has typically consisted of soil and gravel.

The first pavement to the south of or between the east and west wings of Building 123 occurred in the middle to late 1970s (Bokowski, 1994). A review of aerial photographs also proved useful in further defining the paving history of the area in question. However, based on personal knowledge, the amount of paving increased to the current time, when most of the area in paved. The paving itself cannot have been impacted by surface spills of nitrate, since any surface spills of nitrate would have significantly predated the existence of pavement in the area.

Although the HPGe data does not indicate elevated levels of radionuclides at this IHSS, DOE will collect 11 surface soil samples and two vertical soil profile samples in this IHSS as originally purposed in the OU13 Work Plan.

Surficial Soil Sampling in Areas of Stressed Vegetation at IHSS 117.2

It is noted that the figure for this IHSS is somewhat misleading. The swale notation on the figure appears in the street. The figure has been modified to show the swale in its correct location (Figure 7 TM 1). In addition, during a site inspection of this IHSS on June 10, 1994, no stressed vegetation was observed. The stressed vegetation observed fall of 1993 may have been due to the time of year. Due to these factors the surface soil sample locations were not modified.

Surficial Soil Sampling Coverage of IHSS 117.3

As in the previous comment, the locations of these surface soil samples were modified during the September 27, 1993 site reconnaissance. Various unidentified materials were stored at this location from at least 1964 or earlier, until 1970. About 4 gallons of radioactively contaminated oil were reported to have leaked from a waste box that was transferred to the site in 1965. The large fuel oil tanks were constructed in 1973. As part of the construction of the fuel oil tanks in 1973, large earthen berms were also constructed around the tanks. During the site-reconnaissance in September of 1993, Mr. Swanson expressed a concern that surface soil samples located on the berm would not be representative of soil which may have been present during the time of the release in 1965. Therefore, surface soil sample locations were moved closer to the tank. The northern part of this IHSS contains a ditch which parallels Central Avenue. It was purposed during the site visit that sediment samples be located in the ditch to further characterize this IHSS (see response to specific comment #2, section 1.3). We have moved location SS-6 to the narrow strip of land between the berm and the Central Avenue ditch (Figure 13 TM 1).

Coverage of HPGe Survey

The coverage of the HPGe survey is 100 percent except where crates and boxes exist on IHSSs. Efforts are currently underway to remove these obstructions and additional HPGe information obtained. As data is received from the HPGe team it is added to the GIS coverage for all Operable Units. Maps will be provided to you on an ongoing basis. (See answer to comment #3 -Section 3.0 below).

Investigation of HPGe Anomalies

The OU13 Work Plan indicates the number of asphalt samples to be collected for each IHSS or IHSS Group. Locations of asphalt samples as illustrated in Technical Memorandum No. 1 (TM 1) directly reflect what is spelled out in the Work Plan. Based on this information, and additional sodium iodide survey, it is hoped some resolution for biasing further investigative activities at OU13 will be achieved.

Statistical Methods

The statistical approach referred to in TM 1, OU 13 was provided to reference the method used to identify the quantity of samples to be collected at each IHSS group. The document "Guide for Conducting Statistical Comparisons of RFI/RI Data and Background Data at the Rocky Flats Plant" is intended to 1) provide guidelines for OU to background comparisons and 2) identify OU specific contaminants. The guide does not outline procedures for identifying the quantity of data to be collected. The reference used to determine the quantity of samples will be added to the text. All interpretation of data collected and analyzed at OU 13 will be conducted according to the approaches presented in the "Guide for Conducting Statistical Comparisons of RFI/RI Data and Background Data at the Rocky Flats Plant".

SPECIFIC COMMENTS

#1 - Section 1.1
Analytical Methods of Asphalt and Concrete

The Statement of Work for the EPA Contract Laboratory Program (CLP) for Inorganic analysis specifies EPA Method 200.7 modified for analysis of trace elements in solids. The modification consists of the addition of a digestion procedure. The digestion procedure is taken from the SW 846, 8000 series analyses. The same is true for methods 206.2, 239.2, 270.2, 279.2, and 200.8. The method of analysis and procedures for the 200 series is identical to those described in the SW 846, 8000 series. The Technical Memorandum text in Section 1, page 3, paragraph 2, line 10 will be changed to include the word "modified" prior to EPA Method 200.7.

Specific Comment #2 - Section 1.3
Surface Water and Sediments

The investigation of sediment and surface water within the industrial area operable units is still scheduled to be performed as part of the OU12 investigative activities. Funding for this endeavor however will not be allocated until the next fiscal year. In order to proceed with the Phase I, Stage I investigative activities for OU13, it is purposed to proceed with sediment and surface water collection activities in the OU13 ditches at this time. Figure 4 provides information on purposed locations for 25 sediment samples and 10 surface water samples to be analyzed for the parameters listed in Table 7 of TM 1.

Specific Comment #3 - Section 3.0
Table 2: HPGe Results for Operable Unit 13

Table 2 of TM 1 has been modified to include the minimum detectable activity (MDA) for all readings below the MDA. In addition, the HPGe data collected since the submission of the TM 1 is also included. Figure 2 provides the locations of the data points.

Full Analysis of HPGe Data

Full analysis of the HPGe data can not be conducted until the results of the vertical soil profile laboratory analysis are completed for a comparison of in-situ versus laboratory data. Phase 1, Stage 1 data collection is currently ongoing and is expected to be completed by early fall 1994. Once all of the analytical data is received and validated, a comparison of the laboratory and in-situ HPGe information will be performed and provided in Technical Memorandum No. 2.

Specific Comment #4 - IHSS 117.1 and 197
Evaluation of Initial FIDLER Survey Results

FIDLER surveys were performed at HPGe locations identified as anomalous from previous meetings with CDPHE and site reconnaissance. A FIDLER survey was performed at an HPGe location in IHSS 117.1 and 197 based on plutonium readings reported by the HPGe survey. Figure 5 of TM 1 provides the FIDLER survey results from a survey performed on 6/13/94. No readings above background were reported. Included as Appendix C of TM 1 is a memorandum from Mr. Dave Hyder of EG&G Radiological Engineering for further clarification of FIDLER instrumentation and surveys.

Sampling in Paved Areas

A sodium iodide survey was performed in this IHSS between the Protected Area fences on August 3, 1994 (see Figure 4 TM 1). Based on this NaI survey, no elevated readings above background were noted in this area of the IHSS.

Characterization of Areas below Metal Storage Sheds and Connexes

Obstructions from crates, boxes and other items have been begun to move from various IHSSs. This is an ongoing process and as the areas are cleared additional HPGe data will be collected if appropriate.

Specific Comment #5 - Section 3.2 IHSS 117.2, 158, and 169
Scope of Investigation at IHSS 169

IHSS 169 will be removed from the OU13 RI/RFI investigations, and formally recommended for no further action.

Investigation of Am 241 Anomaly at IHSS 117.2

Two asphalt samples were collected within Tent 1 in this IHSS in December 1993 based on prior approval by CDH. The OU13 Work Plan indicates that two asphalt samples will be collected within this IHSS.

Figure 8 of TM 1 illustrates a FIDLER survey performed on June 21, 1994 at the HPGe location Q-13. No readings above background were observed during this survey.

Specific Comment #6 - Section 3.5 IHSS 148
Radiological Survey Coverage at IHSS 148

An HPGe survey was conducted on the east side of Building 123. Survey station 3A-13 is located east and adjacent to the building. At the time of the writing of Technical Memorandum No. 1 HPGe information did not exist on the west side of the building. However, an HPGe survey has since been conducted. Survey station 8I-9 is located west of building 123. The results are listed below (pCi/g).

Isotope/Station	3A-13	8I-9
K-40	17.6	17.2
Ra-226	1.03	0.81
Th-232	1.11	1.31
U-238	1.94	1.8
U-235	0.0786	0.08
Cs-137	0.0252	0.02
Am-241	<0.2	<1200
Pu-239	- -	- -

OPWL Historical Information Review at IHSS 148

As discussed in our meeting regarding these comments, once the Phase 2 work begins for OU13, information currently being compiled by the OU9 team will be obtained and evaluated for the OPWL that exists in this IHSS. The integration of the Industrial Area Operable Units has allowed for exchange of information between the various remedial investigations. Therefore, by using the expertise developed on the OU9 team for this task we will avoid a duplication of effort.

Internal Consistency of TM regarding FSP for IHSS 148

We had purposed to delete the sampling in this IHSS, however it is now reinstated. See response to the general comment regarding this IHSS.

Specific Comment #7 - Section 3.8 IHSS 190
Elevated Uranium - 238 value at location TT-13

See response to Specific Comment no. 2 Section 1.3 above. In addition to sediment sampling a sodium iodide survey was performed at the TT-13 location on June 15, 1994. The results of this survey are illustrated on Figure 14 of TM 1. The results of this survey indicate that the count per minute on this day near the Radiologically Controlled Area (RCA) are above background. The elevated readings were noted to be within proximity to the RCA. Mr. Hyder of EG&G Radiological Engineering reviewed the data and determined that the area was not a concern. For further information on Mr. Hyder's evaluation, please see Appendix C of TM 1.